



Introduction

Diabetes is a chronic illness characterized by relatively high blood glucose levels in response to the body's inability to metabolize carbohydrates, (National Institute of Diabetes and Digestive and Kidney Diseases, 2016). Evidence based practice guidelines support the use of a comprehensive approach based upon individual diagnosis, comorbidities and preferences to reduce death and disability.

Background and Significance

- The prevalence of Type 2 Diabetes Mellitus (T2DM) has significantly increased over the past years. Practical solutions and management of diabetes can be difficult for both the patient and physician if they are unaware of the patient's glucose trends, (Bernot et al., 2017).
- Studies show that most individuals with this disease is uncontrolled due to lack of perceived ability to self-manage and failure to conform to the recommended course of treatment, (Khardori et al., 2015). Self-management education and self efficacy increases patient ability to better manage their disease. Research found that daily monitoring helps patients to assess the quantitative effect of food, physical activity and medications on their blood glucose levels and ultimately improves patient outcomes.

Diet

Diet is one of the key factors in diabetes prevention and management, (Khardori, et al., 2020). Prior to the invention of insulin, a famine diet known as the Allen Diet was used to treat diabetes , (Hamdy & Barakatun-Nisak, 2016).

Self Blood Glucose Monitoring (SMBG)

SMBG is recommended for individuals diagnosed with diabetes and studies show that SMBG empowers the patient, fosters independence and promotes education, (Rokicka et al., 2018)

Aims and Objectives

Aim

The overall purpose of this quality improvement project is to utilize evidence-based practice, in the form of self-management logs to transform the health approach and management of Type 2 Diabetes Mellitus in a subgroup of patients attending a primary practice. This research project aims to improve self-efficacy and increase patient outcomes.

Objectives:

1. Collect data on diabetic patients current and ideal selfcare and management regimens
2. Assess patient's confidence levels related to caring for themselves and to determine the level of support needed from their PCP
3. Assess patients' knowledge and attitudes to the adoption of logbooks and determine its' effects on monitoring at home blood glucose
4. To improve patient-physician relations, increase at home self-glucose monitoring, decrease blood glucose levels and enhance patient's cognizance of their dietary choices

Methodology

Design: A correlational, pre-test post-test

Setting: The setting of the project was a primary care office in NJ

Sample: 10 African American participants with diagnosed T2DM for more than 6 months and reside in Essex county, NJ.

Intervention: A standard pre and post-intervention survey, and two questionnaires (Self Care Inventory(SCI) and the Diabetes Mellitus Self-efficacy Scale(DMSES)) was used to evaluate the effectiveness of logs in improving self-efficacy and management of T2DM. Glucose and dietary logs were also reviewed to determine whether participants made modifications to their diet and medications based on their glucose level.

Results

Blood Sugar

Mean Fasting Pre-BG	218.8mg/dL
Mean Fasting Post-BG	171.2mg/dL
Median Pre-BG	210.5mg/dL
Median Post-BG	163mg/dL
Statistical Significance	YES: P= 0.012

DMSES

Statistical significance

- 13/20 questions about diabetes self efficacy were found to be statistically significant =65%; After the logbook, patients reported increased confidence in regards to managing of their diabetes

No statistical significance

- Only questions concerning insulin were found to be statistically non-significant =35%; However, half of the patients did not use insulin

SCI

Statistical significance

•11/14 questions about self-care practices were found to be statistically significant =79%; After using the logbook, patients reported increased self-care practices

No statistical significance found for 3 Questions= 21%

Discussion

- Although the sample size was small, the results showed that the project met it's aim.
- Diet was shown to be very effective in discriminating between those with and without concurrent blood sugar control
- SBGM was found to be effective in improving dietary choice and predicting future A1C levels
- T2DM has been and still is a growing problem both nationally and internationally, (WHO, 2018). Research show that strategies that aid in the improvement of chronic health management should include: patient support and education, enhanced self care practices and physician education and training, (ADA, 2020).
- In addition, collaborative teams should assess how social support, health literacy, psychological, cultural and linguistic barriers may serve as potential obstacles and prevent optimal management.

Implications

Clinical Practice and Healthcare Policy: Educational programs focused on self-management and nutrition showed a reduction in the utilization of healthcare services, (Goode, 2017)

Quality and Safety: Non-invasive individualized patient-centered approach: a)Increases autonomy and b)Improves diabetic selfcare practices

Education and Economics: a) Logbooks are accessible and cost effective, b) Empirical and interpretive, as it provided several opportunities for future research in terms of policy development and clinical validation and c) Future studies could possibly focus on other determinants such as socioeconomic factors, religious beliefs, cultural values, customs or practices, etc.

Sustainability

- TRIP (Translating Research Into Practice) framework will be used to disseminate the findings from the study and to demonstrate how the staff at this site can effectively and efficiently address any deficiencies found and to ensure continuance
- 3-Month follow up with participants
- Creation of multidisciplinary teams to follow up and support patients

Dissemination

The findings of the study will be disseminated to the following:

- Participants
- Primary care office staff
- Wider Dissemination: Publication of study on Rutgers site, Poster Presentation and Sharing findings with physician's colleague or neighboring primary care sites

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